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Patent and Trademark Office

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Washington, D.C. 20231

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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SEARCHED

INDEXED

MAILED TO: DAVID JOHN FISHER, GLENVILLE, NEW YORK,
ONE ELMUTTIN ROAD,
11414 HANOVER PARK, NEW YORK
BRENTON, NY 10510

EXAMINER

FINANCIAL

ART UNIT

PAPER NUMBER

DATE MAILED

JUL 14 2004

CANCELLER
Technology Center 2600

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Resp due: 11.14.01 *pat*
Final: 2.14.02 *kcb*

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JUL 14 2004

Technology Center 2100

Office Action Summary	Application No.	Applicant(s)
	09/275,766	HERMANSEN ET AL.
Examiner	Art Unit	
Joon H. Hwang	2172	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

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JUL 14 2004

Status

- 1) Responsive to communication(s) filed on ____.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Technology Center 2600

Disposition of Claims

- 4) Claim(s) 1-18 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
 5) Claim(s) ____ is/are allowed.
 6) Claim(s) 1-18 is/are rejected.
 7) Claim(s) ____ is/are objected to.
 8) Claim(s) ____ are subject to restriction and/or election requirement.

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JUL 14 2004

Technology Center 2100

Application Papers

- 9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on 25 March 1999 is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

- 11) The proposed drawing correction filed on ____ is: a) approved b) disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

- 12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. ____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
 3) Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ .
- 4) Interview Summary (PTO-413) Paper No(s) ____ .
 5) Notice of Informal Patent Application (PTO-152)
 6) Other: _____

Art Unit: 2172

DETAILED ACTION

Drawings

1. The drawings are objected to because words in box of 106, 102, 104, 108, and 112 in fig. 1 can't be recognized. Correction is required.
2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: "an output 114" in line 6 on page 10 is not shown in the figure 1. Correction is required.

Specification

3. The disclosure is objected to because of the following informalities: "Appendices G, H, I, and J" in line 5 on page 20 should be "Appendices G, H, I, and J". Appropriate correction is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-2, 7, and 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wheatley et al. (U.S. Patent No. 5,212,730).

Art Unit: 2172

With respect to claims 1-2, Wheatley discloses a proper input name as a string of characters (lines 23-25 and line 15 in col. 2). Wheatley discloses generating a phonetic feature sequence (lines 21-25 in co. 4), which is equivalent to at least a portion of the input proper name. Wheatley discloses comparing the input proper name and phonetic feature representations (lines 44-47 in col. 8, lines 30-38 in col. 2, and lines 16-20 in col. 10). Wheatley does not explicitly disclose obtaining both a first proper name and a second proper name and comparing their phonetic representations to determine likelihood that the first and second proper names represent the same entity. However, Wheatley discloses a comparison between phonetic representations (lines 31-36 in col. 4) and a score representing likelihood for matching relationship (lines 25-34 in col. 9). Input variation from one to two (multiple) inputs would have been obvious to one having ordinary skill in the art. Therefore, Based on Wheatley, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have both inputs of a first and second proper names for comparing their phonetic representations to determine likelihood of the same entity for another comparison option of the two inputs using score representing relationship.

With respect to claims 7 and 13-14, Wheatley discloses a database (abstract and fig. 1) containing records for matching a proper input name, which is inputted as a string of characters (lines 23-25 and line 15 in col. 2). Wheatley discloses generating a phonetic feature sequence (lines 21-25 in co. 4), which is equivalent to at least a portion of the input proper name. Wheatley discloses comparing the input proper name and phonetic feature representations (lines 44-47 in col. 8, lines 30-38 in col. 2, and lines

Art Unit: 2172

16-20 in col. 10) and eliminating potential matching records that fall below a predetermined threshold (lines 40-43 in col. 9 and lines 60-68 in col. 2). Wheatley discloses generating proper names in the database to a number of phonetic feature representations (lines 44-60 in col. 8). Wheatley does not explicitly disclose processing the records remaining after the eliminating step. However, Wheatley discloses a pattern matching and a selection of matching records for the input proper name (abstract). Therefore, based on Wheatley, it would have been obvious to one having ordinary skill in the art at the time the invention was made to process records after the eliminating step in order to find closer matching records for the input proper name.

6. Claims 4, 8, 10, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wheatley et al. (U.S. Patent No. 5,212,730) in view of Hermansen ("Automatic Name Searching in Large Data Bases of International Names," 1985, described in lines 6-10 on page 5 in the specification).

With respect to claim 8, Wheatley discloses the claimed subject matter as discussed above except processing records after an eliminating step with an algorithm. Hermansen discloses searching names using algorithms. Therefore, based on Wheatley in view of Hermansen, it would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the algorithms of Hermansen to the system of Wheatley in order to find closer and more accurate matching records for an input proper name.

With respect to claims 4, 10, and 16, Wheatley discloses the claimed subject matter as discussed above except a further step of processing based on an algorithm of

likely ethnic origin for an input proper name. Hermansen discloses searching using different culturally specific algorithms (line 9 on page 5 in the specification). Therefore, based on Wheatley in view of Hermansen, it would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize culturally specific algorithms of Hermansen to the system of Wheatley in order to have more precise phonetic representations for comparison, thus closer matching records for the input proper name can be obtained or resulted.

7. Claims 3, 9, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wheatley et al. (U.S. Patent No. 5,212,730) in view of Lutz ("The Use of Phonological Information in Automatic Name Searching, March 25, 1997, described in Appendix F in the specification).

With respect to claims 3, 9, and 15, Wheatley discloses the claimed subject matter as discussed above except a phonetic representation in International Phonetic Alphabet (IPA). Wheatley further discloses that other pronunciation representation could be used (lines 21-25 in col. 4) for a phonetic representation. Lutz discloses an automatic name searching using IPA (Section 5.0 on pages 6-7 in Appendix F) for representing pronunciation effectively. Therefore, based on Wheatley in view of Lutz, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have a phonetic representation in IPA for the effective pronunciation representation.

8. Claims 5-6, 11-12, and 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wheatley in view of Hermansen as applied to claim 10 above, and

further in view of PC-NAS (the applicants' admitted prior art that is known more than one year before the priority date of this application, 09/275,766, in lines 11-17 on page 5).

With respect to claims 5-6, 11-12, and 17-18, Wheatley and Hermansen disclose the claimed subject matter as discussed above except comparing and ignoring different portions of pronunciation equivalent phonetic alphabet representation of an input proper name. However, PC-NAS discloses name searching using a combination of n-gram and positional properties and a limited name regularization algorithm (lines 13-16 on page 5 in the specification). This teaches comparing and ignoring portions of phonetic representation in comparison for the name searching. Therefore, based on Wheatley in view of Hermansen, and further in view of PC-NAS, it would have been obvious to one having ordinary skill in the art at the time the invention was made to compare and ignore portions of phonetic representation of the input proper name for effective phonetic representation comparison.

Claim Rejections - 35 USC § 112

9. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
10. Claims 4 and 10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 4 recites the limitation "said name" in 2nd line of claim 4. There is insufficient antecedent basis for this limitation in the claim.

Claim 10 recites the limitation "said name" in 2nd line of claim 10. There is insufficient antecedent basis for this limitation in the claim.

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Vitale et al. (U.S. Patent No. 5,040,218) discloses searching for the origin of an inputted name.

Oshika et al. (improved retrieval of foreign names from large databases, IEEE, 1-5 Feb. 1988, pages 480-487) discloses a name searching for a proper name.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joon H. Hwang whose telephone number is 703-305-6469. The examiner can normally be reached on 9:30-6:00(M~F).

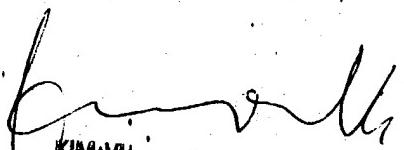
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Y Vu can be reached on 703-305-4393. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-5397 for regular communications and 703-308-5397 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

Application/Control Number: 09/275,766
Art Unit: 2172

Page 8

Joon Hwang
August 11, 2001


KIM VU
SUPERVISORY PATENT EXAMINEE
TECHNOLOGY CENTER 2100



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www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/275,766	03/25/1999	JOHN CHRISTIAN HERMANSEN	20837-007	1175

29315 7590 01/17/2002

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RESTON, VA 20190

EXAMINER

HWANG, JOON H

ART UNIT	PAPER NUMBER
2172	RECEIVED

DATE-MAILED: 01/17/2002

JUL 14 2004

Technology Center 2600

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<input type="checkbox"/> Docket Entry	
<input checked="" type="checkbox"/> Docket Cross Off	
<input type="checkbox"/> Previously Entered	
<input type="checkbox"/> No Docketing Req	
<input type="checkbox"/> ELITE	
<input type="checkbox"/> Annuities	

1/17/02
resp final

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JAN 22 2002

MINTZ LEVIN COHN FERRIS
GLOVSKY and POPEO pc

Office Action Summary	Application No.	Applicant(s)
	09/275,766	HERMANSEN ET AL.
	Examiner	Art Unit
	Joon H. Hwang	2172

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM
 THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
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- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

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JUL 14 2004

Status

- 1) Responsive to communication(s) filed on 31 October 2001.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D.11, 453 O.G. 213.

Technology Center 2600

Disposition of Claims

- 4) Claim(s) 1-19 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1-19 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on 25 March 1999 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.
 If approved, corrected drawings are required in reply to this Office action.
 12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.
 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 a) The translation of the foreign language provisional application has been received.
 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) Notice of References Cited (PTO-892) 4) Interview Summary (PTO-413) Paper No(s). _____.
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) Notice of Informal Patent Application (PTO-152)
 3) Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____. 6) Other:

Art Unit: 2172

DETAILED ACTION

1. Applicants newly added claim 19 in the amendment received on 10/31/2001.

The objection to the specification is withdrawn.

The pending claims are 1-19.

Drawings

2. The drawings are objected to because words in box of 106, 102, 104, 108, and

112 in fig. 1 can't be recognized. Correction is required.

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5)

because they do not include the following reference sign(s) mentioned in the

description: "an output 114" in line 6 on page 10 is not shown in the figure 1.

Correction is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 7, and 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Wheatley et al. (U.S. Patent No. 5,212,730).

With respect to claims 7 and 13-14, Wheatley discloses a database (abstract and fig. 1) containing records including phonetic representations of names (HMM recognition

Art Unit: 2172

model database, lines 3-68 in col. 4) for matching a proper input name, which is inputted as a string of characters (lines 23-25 and line 15 in col. 2 and lines 29-34 in col. 8). Wheatley discloses generating a phonetic feature sequence (lines 21-25 in col. 4), which is equivalent to at least a portion of the input proper name. Further, Wheatley discloses generating an input name to speech signal (lines 29-41 in col. 8). The speech signal teaches a phonetic representation of the input name. Thus, Wheatley discloses generating a phonetic representation of the input name. Wheatley discloses comparing the input proper name and phonetic feature representations (lines 44-47 in col. 8, lines 30-38 in col. 2, and lines 16-20 in col. 10) and eliminating potential matching records that fall below a predetermined threshold (lines 40-43 in col. 9 and lines 60-68 in col. 2).

Wheatley discloses generating proper names in the database to a number of phonetic feature representations (lines 44-60 in col. 8). Wheatley does not explicitly disclose processing the records remaining after the eliminating step. However, Wheatley discloses a pattern matching and a selection of matching records for the input proper name (abstract). Therefore, based on Wheatley, it would have been obvious to one having ordinary skill in the art at the time the invention was made to process records after the eliminating step in order to find closer matching records for the input proper name.

6. Claims 8, 10, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wheatley et al. (U.S. Patent No. 5,212,730) in view of Hermansen ("Automatic Name Searching in Large Data Bases of International Names," 1985, described in lines 6-10 on page 5 in the specification).

With respect to claim 8, Wheatley discloses the claimed subject matter as discussed above except processing records after an eliminating step with an algorithm. Hermansen discloses searching names using algorithms. Therefore, based on Wheatley in view of Hermansen, it would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the algorithms of Hermansen to the system of Wheatley in order to find closer and more accurate matching records for an input proper name.

With respect to claims 10, and 16, Wheatley discloses the claimed subject matter as discussed above except a further step of processing based on an algorithm of likely ethnic origin for an input proper name. Hermansen discloses searching using different culturally specific algorithms (line 9 on page 5 in the specification). Therefore, based on Wheatley in view of Hermansen, it would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize culturally specific algorithms of Hermansen to the system of Wheatley in order to have more precise phonetic representations for comparison, thus closer matching records for the input proper name can be obtained or resulted.

7. Claims 9, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wheatley et al. (U.S. Patent No. 5,212,730) in view of Lutz ("The Use of Phonological Information in Automatic Name Searching, March 25, 1997, described in Appendix F in the specification).

With respect to claims 9, and 15, Wheatley discloses the claimed subject matter as discussed above except a phonetic representation in International Phonetic Alphabet

(IPA). Wheatley further discloses that other pronunciation representation could be used (lines 21-25 in col. 4) for a phonetic representation. Lutz discloses an automatic name searching using IPA (Section 5.0 on pages 6-7 in Appendix F) for representing pronunciation effectively. Therefore, based on Wheatley in view of Lutz, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have a phonetic representation in IPA for the effective pronunciation representation.

8. Claims 11-12, and 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wheatley in view of Hermansen as applied to claim 10 above, and further in view of PC-NAS (the applicants' admitted prior art that is known more than one year before the priority date of this application, 09/275,766, in lines 11-17 on page 5).

With respect to claims 11-12, and 17-18, Wheatley and Hermansen disclose the claimed subject matter as discussed above except comparing and ignoring different portions of pronunciation equivalent phonetic alphabet representation of an input proper name. However, PC-NAS discloses name searching using a combination of n-gram and positional properties and a limited name regularization algorithm (lines 13-16 on page 5 in the specification). This teaches comparing and ignoring portions of phonetic representation in comparison for the name searching. Therefore, based on Wheatley in view of Hermansen, and further in view of PC-NAS, it would have been obvious to one having ordinary skill in the art at the time the invention was made to compare and ignore portions of phonetic representation of the input proper name for effective phonetic representation comparison.

9. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hermansen ("Automatic Name Searching in Large Data Bases of International Names," 1985; described in lines 6-10 on page 5 in the specification).

With respect to claim 19, Hermansen discloses databases containing international names and searching a (proper) name using different culturally specific algorithms. This teaches identifying an input name (surname and given name) in order to determine the cultural origin or ethnicity of the inputted proper name, so that a search strategy (culturally specific algorithms) may be selected. This further teaches a searching including comparisons of the input name and names in the databases. In the specification, Hermansen does not explicitly disclose selecting a set of names that are stored in the databases based on a culture-relevant key-indexing strategy. However, based on Hermansen, it would have been obvious to one having ordinary skill in the art at the time the invention was made to select a set of names in the databases based on the determined cultural origin of the input name in order to search matching names efficiently and effectively.

Claim Rejections - 35 USC § 112

10. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

11. Claims 1, 4, 7, 10, and 13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Art Unit: 2172

Claim 1 recites the limitation "the same entity" in 9th and 11th line of claim 1.

There is insufficient antecedent basis for this limitation in the claim. Furthermore, the applicants are requested to specify clearly what "entity" is in the claim.

Claim 4 recites the limitation "said name" in 2nd line of claim 4. There is insufficient antecedent basis for this limitation in the claim.

Claim 7 recites the limitation "the entity" in 15th and 17th line of claim 7. There is insufficient antecedent basis for this limitation in the claim. Furthermore, the applicants are requested to specify clearly what "entity" is in the claim.

Claim 10 recites the limitation "said name" in 2nd line of claim 10. There is insufficient antecedent basis for this limitation in the claim.

Claim 13 recites the limitation "the same entity" in 16th line of claim 13 and "the entity" in 20th line of claim 13. There is insufficient antecedent basis for this limitation in the claim. Furthermore, the applicants are requested to specify clearly what "entity" is in the claim.

Allowable Subject Matter

12. Claims 1-6 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action.

Claim 1 identifies the distinct feature, inputting two proper names, converting them to phonetic representations, comparing phonetic representations of two proper names, and determining a likelihood of two proper names. The closest prior art, Wheatley et al. (U.S. Patent No. 5,212,730) discloses inputting one name, converting

the name to a speech signal, comparing the signal to generated phonetic representations of names in the database, and determining the proper name for the input name, fails to suggest the claimed limitation as mentioned above. The invention is allowable over the prior art for being directed to a combination of claimed elements as indicated above.

Claims 2-6, dependent claims having further limitations from claim 1, are allowed with the same reason above.

Response to Arguments

13. Applicant's arguments filed 10/23/01 have been fully considered but they are not persuasive.

With respect to claims 7 and 13, the applicants argue that Wheatley does not teach a feature of constructing a first "pronunciation equivalent phonetic alphabet representation (PEPAR)" from a first proper name, constructing a second PEPAR from a second proper name, and comparing the first PEPAR to the second PEPAR.

However, the examiner respectfully disagrees. First, Wheatley discloses a database (HMM recognition model database) containing generated phonetic sequences (phonetic representations) of names (lines 3-68 in col. 4). Second, Wheatley discloses an input name converted to a speech signal (lines 29-41 in col. 8). The speech signal is a generated phonetic representation of the input name. Thus, Wheatley does disclose generating a phonetic representation of the input name. Lastly, Wheatley discloses comparing the spoken name input (a phonetic representation of the input name) to

phonetic representations of names in the database (lines 44-47 in col. 8, lines 30-38 and lines 60-68 in col. 2, and lines 16-20 in col. 10). Therefore, the applicants' arguments are not persuasive.

Conclusion

14. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

French et al. (Applications of approximate word matching in information retrieval, ACM, 1997, pages 9-15), Zobel et al. (Phonetic string matching: lessons from information retrieval, ACM, 1996, pages 166-172), and Marx et al. (Putting people first:

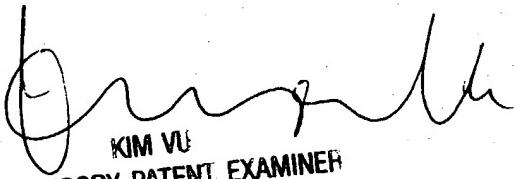
specifying proper names in speech interfaces, ACM, 1994, pages 29-37) disclose string, text, and name matching.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joon H. Hwang whose telephone number is 703-305-6469. The examiner can normally be reached on 9:30-6:00(M~F).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Y Vu can be reached on 703-305-4393. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-5397 for regular communications and 703-308-5397 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

Joon Hwang 
January 11, 2002


KIM VU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100



UNITED STATES PATENT AND TRADEMARK OFFICE

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20837-007

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United States Patent and Trademark Office
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/275,766	03/25/1999	JOHN CHRISTIAN HERMANSEN	20837-007	1175

29315 7590 07/02/2002

MINTZ LEVIN COHN FERRIS GLOVSKY AND POPEO PC
ONE FOUNTAIN SQUARE
11911 FREEDOM DRIVE, SUITE 400
RESTON, VA 20190

EXAMINER

HWANG, JOON H

ART UNIT

PAPER NUMBER

2172

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DATE MAILED: 07/02/2002

JUL 14 2004

Technology Center 2600

Please find below and/or attached an Office communication concerning this application or proceeding.

Date: 14/07/2004

<input checked="" type="checkbox"/> Date Entry	14/07/2004
<input checked="" type="checkbox"/> Docket Entry	14/07/2004
<input checked="" type="checkbox"/> Docket Cross Off	14/07/2004
<input type="checkbox"/> Previously Entered	
<input type="checkbox"/> No Docketing Req	
<input type="checkbox"/> ELITE	
<input type="checkbox"/> Annuities	

Office Action Summary	Application No. O 1 P E 09/275,766	Applicant(s) HERMANSEN ET AL.
	Examiner J Hwang JUL 13 2004 TRADEMA	Art Unit 2172

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

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JUL 14 2004

Status

- 1) Responsive to communication(s) filed on 22 April 2002. **Technology Center 2600**
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-19 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

- 11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.

- 12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>13,16</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Applicants amended claims 1, 2, 4, 7, 10, and 13-17 in the amendment received on 4/22/02.

The objections to the drawing are withdrawn.

The applicants define the term "entity" in the claims as "something that exists as a particular and discrete unit" according to Webster's II New College Dictionary, 1995.

The pending claims are 1-19.

Claim Rejections - 35 USC § 103

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 1, 2, 4, 7, 8, 10, 13, 14, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wheatley et al. (U.S. Patent No. 5,212,730) in view of Hermansen ("Automatic Name Searching in Large Data Bases of International Names," 1985, also described in lines 6-10 on page 5 in the specification).

With respect to claims 1, 2, 7, 13, and 14, Wheatley discloses a database (abstract and fig. 1) containing records including phonetic representations of names (HMM recognition model database, lines 3-68 in col. 4) for matching a proper input name, which is inputted as a string of characters (lines 23-25 and line 15 in col. 2 and lines 29-34 in col. 8). Wheatley discloses generating a phonetic feature sequence (phonetic alphabet representation, lines 21-25 in co. 4), which is equivalent to at least a portion of the input proper name. Further, Wheatley discloses generating an input

Art Unit: 2172

name to speech signal (lines 29-41 in col. 8). The speech signal teaches a phonetic representation of the input name. Thus, Wheatley discloses generating a phonetic representation of the input name. Wheatley discloses comparing the input proper name and phonetic feature representations (lines 44-47 in col. 8, lines 30-38 in col. 2, and lines 16-20 in col. 10) and eliminating potential matching records that fall below a predetermined threshold (lines 40-43 in col. 9 and lines 60-68 in col. 2). Wheatley discloses generating proper names in the database to a number of phonetic feature representations (lines 44-60 in col. 8). Wheatley is silent on processing the records remaining after the eliminating step and receiving data represent the input proper name as a string of characters. However, Hermansen discloses presenting a list of search results (lines 19-23 on page 5), which teaches the processing the records. Wheatley also further discloses a pattern matching and a selection of matching records for the input proper name (abstract). Hermansen discloses searching a database by using strings of characters (lines 5-11 on page 9). Hermansen also discloses entering a name as a query (lines 1-7 on page 117). These teach receiving an input name as a string of characters. Therefore, based on Wheatley in view of Hermansen, it would have been obvious to one having ordinary skill in the art at the time the invention was made to receive an input name as a string of characters for the discretion of a user and to process records after the eliminating step in order to find closer matching records for the input proper name.

With respect to claim 8, Wheatley discloses the claimed subject matter as discussed above except processing records after an eliminating step with an algorithm.

Hermansen discloses searching names using algorithms (lines 16-19 on page 64).

Therefore, based on Wheatley in view of Hermansen, it would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the algorithms of Hermansen to the system of Wheatley in order to find closer and more accurate matching records for an input proper name.

With respect to claims 4, 10, and 16, Wheatley discloses the claimed subject matter as discussed above except a further step of processing based on an algorithm of likely ethnic origin for an input proper name. Hermansen discloses searching using different culturally specific algorithms (line 9 on page 5 in the specification, lines 16-19 on page 64, lines 2-23 on page 74, and lines 4-8 on page 81). Therefore, based on Wheatley in view of Hermansen, it would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize culturally specific algorithms of Hermansen to the system of Wheatley in order to have more precise phonetic representations for comparison, thus closer matching records for the input proper name can be obtained or resulted.

4. Claims 3, 9, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wheatley et al. (U.S. Patent No. 5,212,730) in view of Lutz ("The Use of Phonological Information in Automatic Name Searching, March 25, 1997, described in Appendix F in the specification).

With respect to claims 3, 9, and 15, Wheatley discloses the claimed subject matter as discussed above except a phonetic representation in International Phonetic Alphabet (IPA). Wheatley further discloses that other pronunciation representation

could be used (lines 21-25 in col. 4) for a phonetic representation. Lutz discloses an automatic name searching using IPA (Section 5.0 on pages 6-7 in Appendix F) for representing pronunciation effectively. Therefore, based on Wheatley in view of Lutz, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have a phonetic representation in IPA for the effective pronunciation representation.

5. Claims 5-6, 11-12, and 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wheatley in view of Hermansen as applied to claim 10 above, and further in view of PC-NAS (the applicants' admitted prior art that is known more than one year before the priority date of this application, 09/275,766, in lines 11-17 on page 5 in the specification).

With respect to claims 5-6, 11-12, and 17-18, Wheatley and Hermansen disclose the claimed subject matter as discussed above except comparing and ignoring different portions of pronunciation-equivalent phonetic alphabet representation of an input proper name. However, PC-NAS discloses name searching using a combination of n-gram and positional properties and a limited name regularization algorithm (lines 13-16 on page 5 in the specification). This teaches comparing and ignoring portions of phonetic representation in comparison for the name searching. Therefore, based on Wheatley in view of Hermansen, and further in view of PC-NAS, it would have been obvious to one having ordinary skill in the art at the time the invention was made to compare and ignore portions of phonetic representation of the input proper name for effective phonetic representation comparison.

6. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hermansen ("Automatic Name Searching in Large Data Bases of International Names," 1985, also described in lines 6-10 on page 5 in the specification).

With respect to claim 19, Hermansen discloses identifying surname and given name that are part of an input proper name (lines 1-18 on page 35, lines 20-23 on page 63, line 1 on page 64, and lines 9-14 on page 80). Hermansen discloses determining the cultural origin or ethnicity of the inputted proper name (lines 18-23 on page 74, lines 21-23 on page 80, and lines 1-8 on page 81). Hermansen discloses selecting a search strategy based on the cultural origin of the input name (lines 7-10 on page 35, lines 16-19 on page 64, lines 18-23 on page 74, and lines 4-8 on page 81). Hermansen discloses selecting a set of names that are stored in the database (lines 18-20 on page 20). Hermansen discloses using an algorithm tailored to evaluate which of the selected names match the proper name (lines 19-20 on page 35, lines 16-23 on page 45, lines 1-5 on page 54, and lines 8-20 on page 118). Hermansen is silent on selecting a set of names that are stored in the databases based on a culture-relevant key-indexing strategy. However, Hermansen discloses a cultural key-indexing element (lines 4-7 on page 7, lines 6-13 on page 19, lines 1-3 on page 22, and lines 1-9 in col. 37). Therefore, based on Hermansen, it would have been obvious to one having ordinary skill in the art at the time the invention was made to select a set of names in the databases based on the determined cultural origin of the input name in order to search matching names efficiently and effectively.

Response to Arguments

7. Applicant's arguments with respect to claims 1, 7, 13, and 19 have been considered but are moot in view of the new ground(s) of rejection.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joon H. Hwang whose telephone number is 703-305-6469. The examiner can normally be reached on 9:30-6:00(M~F).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Y Vu can be reached on 703-305-4393. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-5397 for regular communications and 703-308-5397 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

Joon Hwang
June 30, 2002


Joon Hwang
KIM YU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100



UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office

APPLICATION NUMBER	FILING DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NO.
09/215,766	3/25/99	John C. Hermansen	20837-087

	EXAMINER
Joon Hwang	
ART UNIT	PAPER NUMBER
2173	19

DATE MAILED:

INTERVIEW SUMMARY

All participants (applicant, applicant's representative, PTO personnel):

- (1) Brian Rosenbloom (3) Jean M. Cornelius (2192)
(2) John C. Flemansen (4) Joan Hwang

Date of Interview 4/24/02

Type: Telephonic Televideo Conference Personal (copy is given to applicant applicant's representative).

Exhibit shown or demonstration conducted: Yes No If yes, brief description:

Agreement was reached. was not reached.

Claim(s) discussed: 7

Identification of prior art discussed: Wheatley et al. (U.S. Patent No. 5,212,730)

Description of the general nature of what was agreed to if an agreement was reached, or any other comments: Discussed

about the present invention and differences to the relevance (730).

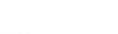
The examiner would reconsider the present invention in light of the
~~RCE~~
~~proposed amendments~~, RCE.

(A fuller description, if necessary, and a copy of the amendments, if available, which the examiner agreed would render the claims allowable must be attached. Also, where no copy of the amendments which would render the claims allowable is available, a summary thereof must be attached.)

It is not necessary for applicant to provide a separate record of the substance of the interview.

Unless the paragraph above has been checked to indicate to the contrary. A FORMAL WRITTEN REPLY TO THE LAST OFFICE ACTION IS NOT WAIVED AND MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW. (See MPEP Section 713.04). If a reply to the last Office action has already been filed, APPLICANT IS GIVEN ONE MONTH FROM THIS INTERVIEW DATE TO FILE A STATEMENT OF THE SUBSTANCE OF THE INTERVIEW.

Examiner Note: You must sign this form unless it is an attachment to another form.


JEAN M. CORRIELUS
PRIMARY EXAMINER
ART Unit 2172



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/275,766	03/25/1999	JOHN CHRISTIAN HERMANSEN	20837-007	1175

29315 7590 12/18/2002

MINTZ LEVIN COHN FERRIS GLOVSKY AND POPEO PC
12010 SUNSET HILL ROAD
SUITE 900
RESTON, VA 20190

EXAMINER

HWANG, JOON H

ART UNIT	PAPER NUMBER
2172	

DATE MAILED: 12/18/2002

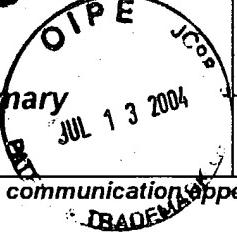
R E C E I V E D
DEC 23 2002

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C A N C E L L E D
Technology Center 2600
JUL 14 2004

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<input type="checkbox"/> Previously Entered	
<input type="checkbox"/> No Docketing Req.	
<input type="checkbox"/> Elite	
<input type="checkbox"/> Annuities	

R E C E I V E D
JUL 14 2004
Technology Center 2100

 Office Action Summary	Application No.	Applicant(s)
	09/275,766	HERMANSEN ET AL.
	Examiner	Art Unit
	Joon H. Hwang	2172

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

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JUL 14 2004

Status

- 1) Responsive to communication(s) filed on 07 October 2002.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.
- 4) Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-20 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Technology Center 2600

Disposition of Claims

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 2172

DETAILED ACTION

1. Applicants amended the claim 19 and added a claim 20 in the amendment received on 10/07/02.

The pending claims are 1-20.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-4, 7-10, 13-16, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wheatley et al. (U.S. Patent No. 5,212,730) in view of Hermansen ("Automatic Name Searching in Large Data Bases of International Names," 1985, also described in lines 6-10 on page 5 in the specification).

With respect to claims 1, 2, 7, 13, 14, and 20, Wheatley discloses a database (abstract and fig. 1) containing records including phonetic representations of names (HMM recognition model database, lines 3-68 in col. 4) for matching a proper input name, which is inputted as a string of characters (lines 23-25 and line 15 in col. 2 and lines 29-34 in col. 8). Wheatley discloses generating a phonetic feature sequence (phonetic alphabet representation, lines 21-25 in co. 4), which is equivalent to at least a portion of the input proper name. Further, Wheatley discloses generating an input name to speech signal (lines 29-41 in col. 8). The speech signal teaches a phonetic

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representation of the input name. Thus, Wheatley discloses generating a phonetic representation of the input name. Wheatley discloses comparing the input proper name and phonetic feature representations (lines 44-47 in col. 8, lines 30-38 in col. 2, and lines 16-20 in col. 10) and eliminating potential matching records that fall below a predetermined threshold (lines 40-43 in col. 9 and lines 60-68 in col. 2). Wheatley discloses generating proper names in the database to a number of phonetic feature representations (lines 44-60 in col. 8). Wheatley is silent on processing the records remaining after the eliminating step and receiving data represent the input proper name as a string of characters. However, Hermansen discloses presenting a list of search results (lines 19-23 on page 5), which teaches the processing the records. Wheatley also further discloses a pattern matching and a selection of matching records for the input proper name (abstract). Hermansen discloses searching a database by using strings of characters (lines 5-11 on page 9). Hermansen also discloses entering a name as a query (lines 1-7 on page 117). These teach receiving an input name as a string of characters. Hermansen discloses portions of a name (lines 1-18 on page 35, lines 20-23 on page 63, line 1 on page 64, and lines 9-14 on page 80). Therefore, based on Wheatley in view of Hermansen, it would have been obvious to one having ordinary skill in the art at the time the invention was made to receive an input name as a string of characters for the discretion of a user and to process records after the eliminating step in order to find closer matching records for the input proper name.

With respect to claim 8, Wheatley discloses the claimed subject matter as discussed above except processing records after an eliminating step with an algorithm.

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Hermansen discloses searching names using algorithms (lines 16-19 on page 64).

Therefore, based on Wheatley in view of Hermansen, it would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the algorithms of Hermansen to the system of Wheatley in order to find closer and more accurate matching records for an input proper name.

With respect to claims 3, 9, and 15, Wheatley discloses the claimed subject matter as discussed above except a phonetic representation in International Phonetic Alphabet (IPA). Wheatley further discloses that other pronunciation representation could be used (lines 21-25 in col. 4) for a phonetic representation. Hermansen discloses names in International Phonetic Alphabet representation (IPA, section 4.1 on pages 68-71) for standardization. Therefore, based on Wheatley in view of Hermansen, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have a phonetic representation in IPA for standardization.

With respect to claims 4, 10, and 16, Wheatley discloses the claimed subject matter as discussed above except a further step of processing based on an algorithm of likely ethnic origin for an input proper name. Hermansen discloses searching using different culturally specific algorithms (line 9 on page 5 in the specification, lines 16-19 on page 64, lines 2-23 on page 74, and lines 4-8 on page 81). Therefore, based on Wheatley in view of Hermansen, it would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize culturally specific algorithms of Hermansen to the system of Wheatley in order to have more precise phonetic

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representations for comparison, thus closer matching records for the input proper name can be obtained or resulted.

4. Claims 5-6, 11-12, and 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wheatley in view of Hermansen as applied to claim 10 above, and further in view of PC-NAS (the applicants' admitted prior art that is known more than one year before the priority date of this application, 09/275,766, in lines 11-17 on page 5 in the specification).

With respect to claims 5-6, 11-12, and 17-18, Wheatley and Hermansen disclose the claimed subject matter as discussed above except comparing and ignoring different portions of pronunciation equivalent phonetic alphabet representation of an input proper name. However, PC-NAS discloses name searching using a combination of n-gram and positional properties and a limited name regularization algorithm (lines 13-16 on page 5 in the specification). This teaches comparing and ignoring portions of phonetic representation in comparison for the name searching. Therefore, based on Wheatley in view of Hermansen, and further in view of PC-NAS, it would have been obvious to one having ordinary skill in the art at the time the invention was made to compare and ignore portions of phonetic representation of the input proper name for effective phonetic representation comparison.

5. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hermansen ("Automatic Name Searching in Large Data Bases of International Names," 1985, also described in lines 6-10 on page 5 in the specification).

With respect to claim 19, Hermansen discloses identifying surname and given name that are part of an input proper name (lines 1-18 on page 35, lines 20-23 on page 63, line 1 on page 64, and lines 9-14 on page 80). Hermansen discloses determining the cultural origin or ethnicity of the inputted proper name (lines 18-23 on page 74, lines 21-23 on page 80, and lines 1-8 on page 81). Hermansen discloses selecting a search strategy based on the cultural origin of the input name (lines 7-10 on page 35, lines 16-19 on page 64, lines 18-23 on page 74, and lines 4-8 on page 81). Hermansen discloses selecting a set of names that are stored in the database (lines 18-20 on page 20). Hermansen discloses using an algorithm tailored to evaluate which of the selected names match the proper name (lines 19-20 on page 35, lines 16-23 on page 45, lines 1-5 on page 54, and lines 8-20 on page 118). Hermansen discloses pronunciation equivalent phonetic alphabet representations for a name (sections 2.5.1 and 2.5.2 on pages 24-30 and section 4.1 and 4.1.1 on pages 68-73). Hermansen is silent on selecting a set of names that are stored in the databases based on a culture-relevant key-indexing strategy. However, Hermansen discloses a cultural key-indexing element (lines 4-7 on page 7, lines 6-13 on page 19, lines 1-3 on page 22, and lines 1-9 in col. 37). Therefore, based on Hermansen, it would have been obvious to one having ordinary skill in the art at the time the invention was made to select a set of names in the databases based on the determined cultural origin of the input name in order to search matching names efficiently and effectively.

Response to Arguments

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6. Applicant's arguments filed on 10/07/02 have been fully considered but they are not persuasive.

The applicants argue that speech signals in Wheatley are not phonetic sequences for a name text. However, the examiner respectfully disagrees. Wheatley discloses generating an input name to speech signal (lines 29-41 in col. 8) that teaches a phonetic representation of the input name. Thus, Wheatley discloses generating a phonetic representation of the input name. Further Wheatley discloses other pronunciation representation could be used (lines 17-25 in col. 4). For the sake of the argument, Hermansen discloses entering a name as a query (lines 1-7 on page 117), which is varied with phonetic alphabet representations (sections 2.5.1 and 2.5.2 on pages 24-30 and section 4.1 and 4.1.1 on pages 68-73). This input of query could be utilized in the system of Wheatley for providing flexible ways of input to a user.

Therefore, based on Wheatley in view of Hermansen, it would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the query input for providing flexible ways of input to the user.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Therefore, the arguments are not persuasive.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joon H. Hwang whose telephone number is 703-305-6469. The examiner can normally be reached on 9:30-6:00(M~F).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Y Vu can be reached on 703-305-4393. The fax phone numbers for the organization where this application or proceeding is assigned are 703-746-7239 for regular communications and 703-746-7238 for After Final communications.

Art Unit: 2172

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

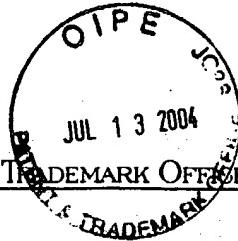
Joon Hwang
December 12, 2002



JEAN M. CORNELIUS
PRIMARY EXAMINER



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/275,766	03/25/1999	JOHN CHRISTIAN HERMANSEN	20837-007	1175

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EXAMINER

HWANG, JOON H

ART UNIT PAPER NUMBER

2172

DATE MAILED: 09/15/2003

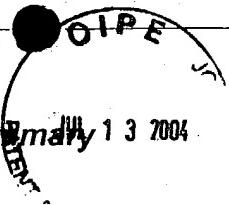
JUL 14 2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

Done By
HL
7/15/03

<input checked="" type="checkbox"/> Data Entry
<input checked="" type="checkbox"/> Docket Entry
<input checked="" type="checkbox"/> Docket Cross Off
<input type="checkbox"/> Previously Entered
<input type="checkbox"/> No Docketing Req.
<input type="checkbox"/> Elite
<input type="checkbox"/> Annuities

 Office Action Summary 13 7004	Application No.	Applicant(s)
	09/275,766	HERMANSEN ET AL.
	Examiner	Art Unit
	Joon H. Hwang	2172

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

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Status

- 1) Responsive to communication(s) filed on 23 June 2003.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-6, 13-19 and 21-30 is/are pending in the application.
- 4a) Of the above claim(s) 7-12 and 20 is/are withdrawn from consideration.
Canceled
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-6, 13-19 and 21-30 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All
 - b) Some *
 - c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 - a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The applicants amended claims 1-6, 13, and 16-19, canceled claims 7-12 and 20 without prejudice, and added new claims 21-30 in the amendment received on 6/23/03.
The pending claims are 1-6, 13-19, and 21-30.

Requirement for Information

2. Applicant and the assignee of this application are required under 37 CFR 1.105 to provide the following information that the examiner has determined is reasonably necessary to the examination of this application.

The information is required to enter in the record the art suggested by the applicant as relevant to this examination in the specification, lines 11-17 on page 5, about a known software program PC-NAS.

In responding to those requirements that require copies of documents, where the document is a bound text or a single article over 50 pages, the requirement may be met by providing copies of those pages that provide the particular subject matter indicated in the requirement, or where such subject matter is not indicated, the subject matter found in applicant's disclosure.

The fee and certification requirements of 37 CFR 1.97 are waived for those documents submitted in reply to this requirement. This waiver extends only to those documents within the scope of this requirement under 37 CFR 1.105 that are included in the applicant's first complete communication responding to this requirement. Any supplemental replies subsequent to the first communication responding to this

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requirement and any information disclosures beyond the scope of this requirement under 37 CFR 1.105 are subject to the fee and certification requirements of 37 CFR 1.97.

The applicant is reminded that the reply to this requirement must be made with candor and good faith under 37 CFR 1.56. Where the applicant does not have or cannot readily obtain an item of required information, a statement that the item is unknown or cannot be readily obtained will be accepted as a complete reply to the requirement for that item.

This requirement is an attachment of the enclosed Office action. A complete reply to the enclosed Office action must include a complete reply to this requirement. The time period for reply to this requirement coincides with the time period for reply to the enclosed Office action.

Claim Rejections - 35 USC § 103

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. Claims 1-6, 13-18, and 21-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oshika et al. ("Improved Retrieval Of Foreign Names From Large Database", 1998, IEEE, pages 480-487) in view of Hermansen ("Automatic Name Searching in Large Data Bases of International Names," 1985, also described in lines 6-10 on page 5 in the specification).

With respect to claim 1, Oshika discloses obtaining test data representing a first proper name (a query name) and a second proper name (a record name in a database) (section 1.0 on page 480 and section 2.0 on pages 480-481). Oshika discloses classifying the text data representing said first proper name into one or more predetermined classifications (section 1.0 on page 480 and section 3.0 on page 481). Oshika discloses converting the text data representing said first proper name to one or more representations of said first proper name in a phonetic alphabet using rules associated with said one or more predetermined classifications (section 1.0 on page 480, section 3.0 on page 481, section 4.0 on page 485, section 5.0 on pages 485-486, and section 6.0 on page 486). Oshika discloses converting a query name and a record name from the database into a canonical form in order to find a match between those names (section 2.0 on pages 480-481). Oshika discloses a search technique that classifies the language source of the query name then uses the language-specific rewrite rules for name variants (section 2.0 on pages 480-481) instead of the technique of the canonical forming. These teach the text data representing the second proper name could be also converted to at least one predetermined representation in the phonetic alphabet. Oshika is silent on determining a likelihood of match between the names. However, Hermansen discloses determining a likelihood of match between the first proper name and the second proper name (section 3.2 on page 46-50, section 3.3 on pages 52-55, and section 3.4 on pages 55-59). Hermansen discloses producing a signal indicating said likelihood of match (section 1.1 on pages 4-8 and section 2.1 on pages 15-16). Therefore, based on Oshika in view of Hermansen, it would have been

obvious to one having ordinary skill in the art at the time the invention was made to determine a likelihood of match between the names in order to search proper names effectively.

With respect to claim 2, Oshika discloses obtaining the data representing the first proper name and the second proper name as a string of characters (section 1.0 on page 480, section 2.0 on pages 480-481, and section 3.0 on page 481).

With respect to claim 3, Hermansen discloses International Phonetic Alphabet (section 4.1 on pages 68-71) for transcription. Therefore, based on Oshika in view of Hermansen, it would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize IPA for transcription.

With respect to claim 4, Oshika discloses corresponding the predetermined classifications to one or more ethnic origins of the at least one of the first and second proper names and performing the comparison according to an algorithm that varies depending on the corresponding one or more ethnic origins (section 1.0 on page 480, section 2.0 on pages 480-481, section 3.0 on page 481, section 4.0 on page 485, and section 5.0 on pages 485-486).

With respect to claim 5, Oshika discloses utilizing different portions of a name for name searching (section 2.0 on pages 480-481). Hermansen also discloses comparing at least a portion of name in phonetic alphabet depending on the corresponding ethnic origins (section 2.1 on pages 15-16, section 3.2 on page 46-50, section 3.3 on page 52-55, and section 3.4 on page 55-59).

The limitations of claim 6 are rejected in the analysis of claim 5 above, and the claim is rejected on that basis.

With respect to claim 13, Oshika discloses a database including a plurality of proper names and records associated respectively with the proper names representing entities (section 1.0 on page 480 and section 2.0 on pages 480-481). Oshika discloses creating a plurality of phonetic alphabet representations of at least a portion of the proper names (section 3.0 on page 481 and section 4.0 on page 485). Oshika discloses receiving text data representing an input proper name (a query name) as a string of characters (section 2.0 on pages 480-481 and section 3.0 on page 481). Oshika discloses classifying the text data representing the input proper name into one or more predetermined classifications (section 1.0 on page 480 and section 3.0 on page 481). Oshika discloses creating one or more phonetic alphabet representations of the input proper name for each of the predetermined classifications (section 2.0 on pages 480-481, section 3.0 on page 481, section 3.3 on pages 484-485, and section 4.0 on page 485). Oshika is silent on determining a likelihood of match between the names. However, Hermansen discloses determining a likelihood of match between the input proper name and the proper name through a comparison (section 3.2 on page 46-50, section 3.3 on pages 52-55, and section 3.4 on pages 55-59). Hermansen discloses producing a signal indicating said likelihood of match (section 1.1 on pages 4-8, section 2.1 on pages 15-16, section 3.3 on pages 52-55, and section 6.2.3 on page 117) by eliminating matches falling below a predetermined threshold. Therefore, based on Oshika in view of Hermansen, it would have been obvious to one having ordinary skill in

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the art at the time the invention was made to determine a likelihood of match between the names in order to search proper names effectively.

With respect to claim 14, Oshika discloses the plurality of proper names consisting a string of characters (section 3.0 on page 481 and section 4.0 on page 485).

With respect to claim 15, Hermansen discloses International Phonetic Alphabet (section 4.1 on pages 68-71) for transcription. Therefore, based on Oshika in view of Hermansen, it would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize IPA for transcription.

With respect to claim 16, Oshika discloses processing the input proper name to assign one of a set of categories of likely ethnic origin of the input proper name and performing a comparison of the phonetic alphabet representations of the input proper name to the plurality of predetermined pronunciation equivalent representations of the proper names according to an algorithm that varies depending on the predetermined classifications corresponding to a likely ethnic origin (section 1.0 on page 480, section 2.0 on pages 480-481, section 3.0 on page 481, section 3.3 on pages 484-485, section 4.0 on page 485, and section 5.0 on pages 485-486).

With respect to claim 17, Oshika discloses utilizing different portions of a name for name searching (section 2.0 on pages 480-481). Hermansen also discloses comparing at least a portion of name in phonetic alphabet depending on the corresponding ethnic origins (section 2.1 on pages 15-16, section 3.2 on page 46-50, section 3.3 on page 52-55, and section 3.4 on page 55-59).

The limitations of claim 18 are rejected in the analysis of claim 17 above, and the claim is rejected on that basis.

With respect to claim 21, the limitations of claim 21 are similar to the limitations of claim 13. Oshika further discloses utilizing different portions of a name for name searching (section 2.0 on pages 480-481). Therefore, the limitations of claim 21 are rejected in the analysis of claim 13 above, and the claim is rejected on that basis.

The limitations of claim 22 are rejected in the analysis of claim 13 above, and the claim is rejected on that basis.

With respect to claim 23, the limitations of claim 23 are similar to the limitations of claim 13. Oshika further discloses utilizing different portions of a name for name searching (section 2.0 on pages 480-481). Therefore, the limitations of claim 23 are rejected in the analysis of claim 13 above, and the claim is rejected on that basis.

The limitations of claim 24 are rejected in the analysis of claim 15 above, and the claim is rejected on that basis.

With respect to claim 25, Oshika discloses corresponding the predetermined classifications to predetermined cultural classifications (section 3.0 on page 481 and section 3.3 on pages 484-485).

With respect to claim 26, Oshika discloses using an algorithm that varies depending on the predetermined cultural classification for the comparison (section 3.0 on page 481, section 4.0 on page 485, and section 5.0 on pages 485-486).

The limitations of claim 27 are rejected in the analysis of claim 17 above, and the claim is rejected on that basis.

The limitations of claim 28 are rejected in the analysis of claim 18 above, and the claim is rejected on that basis.

With respect to claim 29, Oshika discloses converting a query name and a record name from the database into a canonical form in order to find a match between those names (section 2.0 on pages 480-481). Oshika discloses a search technique that classifies the language source of the query name then uses the language-specific rewrite rules for name variants (section 2.0 on pages 480-481) instead of the technique of the canonical forming. These teach the text data representing the candidate proper name could be also converted to at least one predetermined representation in the phonetic alphabet based on the rules.

With respect to claim 30, the limitations of claim 30 are similar to the limitations of claim 13 above. Oshika further discloses a surname of a proper name (section 2.0 on pages 480-481), which also teaches a given name of the proper name. Hermansen further discloses International Phonetic Alphabet (section 4.1 on pages 68-71) for transcription. Therefore, the limitations of claim 30 are rejected in the analysis of claim 13 above, and the claim is rejected on that basis.

5. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hermansen ("Automatic Name Searching in Large Data Bases of International Names," 1985, also described in lines 6-10 on page 5 in the specification).

With respect to claim 19, Hermansen discloses identifying apparent surnames and given names that are part of a string of characters that represent the proper name

(lines 1-18 on page 35, lines 20-23 on page 63, line 1 on page 64, and lines 9-14 on page 80). Hermansen discloses determining the cultural origin or ethnicity of the proper name based on at least one of said apparent surnames or said given names (chapter 4 on pages 68-83). Hermansen discloses selecting a search strategy based on the determined cultural origin or ethnicity of the proper name (lines 7-10 on page 35, lines 16-19 on page 64, lines 18-23 on page 74, and lines 4-8 on page 81). Hermansen discloses selecting a set of names from the database (lines 18-20 on page 20). Hermansen discloses using an algorithm tailored to evaluate which of the selected set of names match the proper name (lines 19-20 on page 35, lines 16-23 on page 45, lines 1-5 on page 54, and lines 8-20 on page 118). Hermansen discloses phonetic alphabet representations for a name (sections 2.5.1 and 2.5.2 on pages 24-30 and section 4.1 and 4.1.1 on pages 68-73). Hermansen is silent on selecting a set of names from the database based on a culture-relevant key-indexing strategy. However, Hermansen discloses a cultural key-indexing element (lines 4-7 on page 7, lines 6-13 on page 19, lines 1-3 on page 22, and lines 1-9 in col. 37). Therefore, based on Hermansen, it would have been obvious to one having ordinary skill in the art at the time the invention was made to select a set of names in the databases based on the determined cultural origin of the input name in order to search matching names efficiently and effectively.

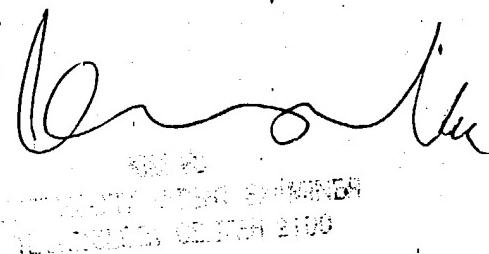
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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Y Vu can be reached on 703-305-4393. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

Joon Hwang
9/7/03



Kim Y Vu
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